

CELVIANO AP-5

DIGITAL PIANO
PIANO DIGITAL

OPERATION MANUAL 1
MANUAL DE OPERACION 57





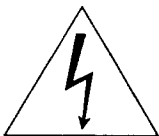
英西

CASIO®

IMPORTANT

Be careful to slide the keyboard cover all the way open whenever you are playing the piano. If you fail to do so, there is the danger that vibration may cause the cover to close suddenly, possibly injuring your fingers.

	CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN	
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.		



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

Introduction AP-5 Digital Piano

Congratulations on your selection of Casio's new AP-5 Digital Piano. This piano is a sophisticated musical instrument that blends the very best of traditional keyboard feel and sound quality with the latest that modern electronics technology has to offer. In addition, you also get memory card playback capabilities, plus a two-track sequencer and memory card storage.

Before using the AP-5, be sure to carefully read through the instructions contained in this manual.

About this manual...

This manual is divided into five parts.

PART 1 — Getting Acquainted

This part of the manual helps you get acquainted with the controls, features, and functions of the piano. It tells you where controllers are located, where to connect cables, etc.

PART 2 — Basic Operation

This part of the manual provides the basic information that you need for operating the piano. It is meant to serve as a quick reference that describes the fundamentals of each operation. Because of this, little or no detail is provided. Page numbers in this section indicate where more detail can be found in Part 3.

PART 3 — Operation Reference

This part of the manual provides all of the technical details that apply to each operation that can be performed on the piano. Key operations along with illustrations of the display as it should appear are provided, along with detailed notes and precautions. You should read this part of the manual at least once to familiarize yourself with the full potential of the piano's features and functions.

PART 4 — MIDI Reference

This part of the manual tells you all you need to know to connect with another MIDI instrument or device for data exchanges.

PART 5 — Technical Reference

This part of the manual provides technical information on troubleshooting, user maintenance, specifications, error messages, etc.

Contents

INTRODUCTION	1
PART 1 — Getting Acquainted, Getting Started	
General Guide	6
PART 2 — Basic Operation	9
Setting Up the Keyboard	10
To switch the keyboard on	10
To select a tone	10
To select an effect	10
To adjust the brilliance	10
To switch the Metronome Function on and off	10
To change the key of the keyboard	10
To tune the keyboard	10
Using the Card Mode	11
To enter and exit the Card Mode	11
To insert a card into the keyboard	11
To select a card song	11
To start and stop card playback.....	11
To use cue	12
To use review	12
To change the tempo	12
To select the type of repeat.....	12
To repeat play an entire card song	12
To repeat play the entire card.....	13
To define repeat start and end points	13
To start and stop repeat play of a previously defined section	13
Using the Sequencer Mode	14
Using the Sequencer Mode Alone.....	14
To enter and exit the Sequencer Mode	14
To record to the sequencer	14
To playback from the sequencer	14
To pause during sequencer playback	15
To use cue	15
To use review	15
To change the tempo	15
To change a sequencer recording from a certain point.....	15
To delete sequencer data	15
Using the Sequencer Mode with the Card Mode.....	16
To enter the Sequencer Mode from the Card Mode.....	16
To coordinate sequencer recording with card playback.....	16
To coordinate sequencer playback with card playback.....	16
Using RAM Cards	16
To select a RAM card function	16
To format a RAM card	17
To save sequencer data to a RAM card	17
To load sequencer data from a RAM card	17
To delete sequencer data from a RAM card.....	18
PART 3 — Operation Reference	19
Setting Up the Keyboard	20
To switch the keyboard on	20
To select a tone	20
To select an effect	20
To adjust the brilliance.....	20
To switch the Metronome Function on and off.....	20
To change the tempo	20
About effects.....	21
To change the number of beats per measure	21
To reset the tempo and beat to their standard values.....	21
About the Metronome Function.....	22
To change the key of the keyboard	22
To tune the keyboard	22
About the Keyboard Pedals.....	23
Using the Card Mode	24
About card song types.....	24
To enter and exit the Card Mode	24
To insert a card into the keyboard	25
To select a card song.....	25
To start and stop card playback.....	25
To pause during card playback	26
To use cue	26
To use review	26
To change the tempo	26
To reset the tempo to its original value ...	27
About the Card Mode's Off Part Function	27
To switch a playback part off	27
About the Card Mode's Repeat Playback Function	27
To select the type of repeat.....	28
To repeat play an entire card song	28
To repeat play the entire card.....	29

To define repeat start and end points	29	PART 5 — Technical Reference	49
To delete previously defined start and end points.....	30	In the Event of an Operating Problem	50
To start and stop repeat play of a previously defined section.....	31	Error Message Table	51
To coordinate card playback with the Metronome Function	31	Care of Your Keyboard	51
Using the Sequencer Mode	33	Specifications	53
Using the Sequencer Mode Alone.....	33	Important Safety Instructions	55
To enter and exit the Sequencer Mode	33	Optional Accessories	57
To record to the sequencer	33		
About the tempo and beat settings...	34		
To playback from the sequencer	34		
To pause during sequencer playback	35		
About track selections	35		
To use cue	36		
To use review	36		
To change the tempo	36		
To reset the tempo to its recorded value	36		
To change a sequencer recording from a certain point.....	36		
About track selections	37		
To delete all sequencer data	37		
Using the Sequencer Mode with the Card Mode.....	38		
To enter the Sequencer Mode from the Card Mode.....	38		
To coordinate sequencer recording with card playback.....	38		
To coordinate sequencer playback with card playback.....	39		
To change a card/sequencer recording from a certain point.....	40		
Memory backup battery.....	40		
Using RAM Cards	41		
To select a RAM card function	41		
To format a RAM card	41		
To save sequencer data to a RAM card ..	42		
To load sequencer data from a RAM card.....	42		
To delete sequencer data from a RAM card.....	42		
PART 4 — MIDI Reference	45		
About AP-5 MIDI Functions.....	46		
To set the MIDI basic channel.....	46		
To set the MIDI MULTI CHANNEL mode.....	47		
About damper pedal control data	48		

PART 1 **Getting Acquainted, Getting Started**

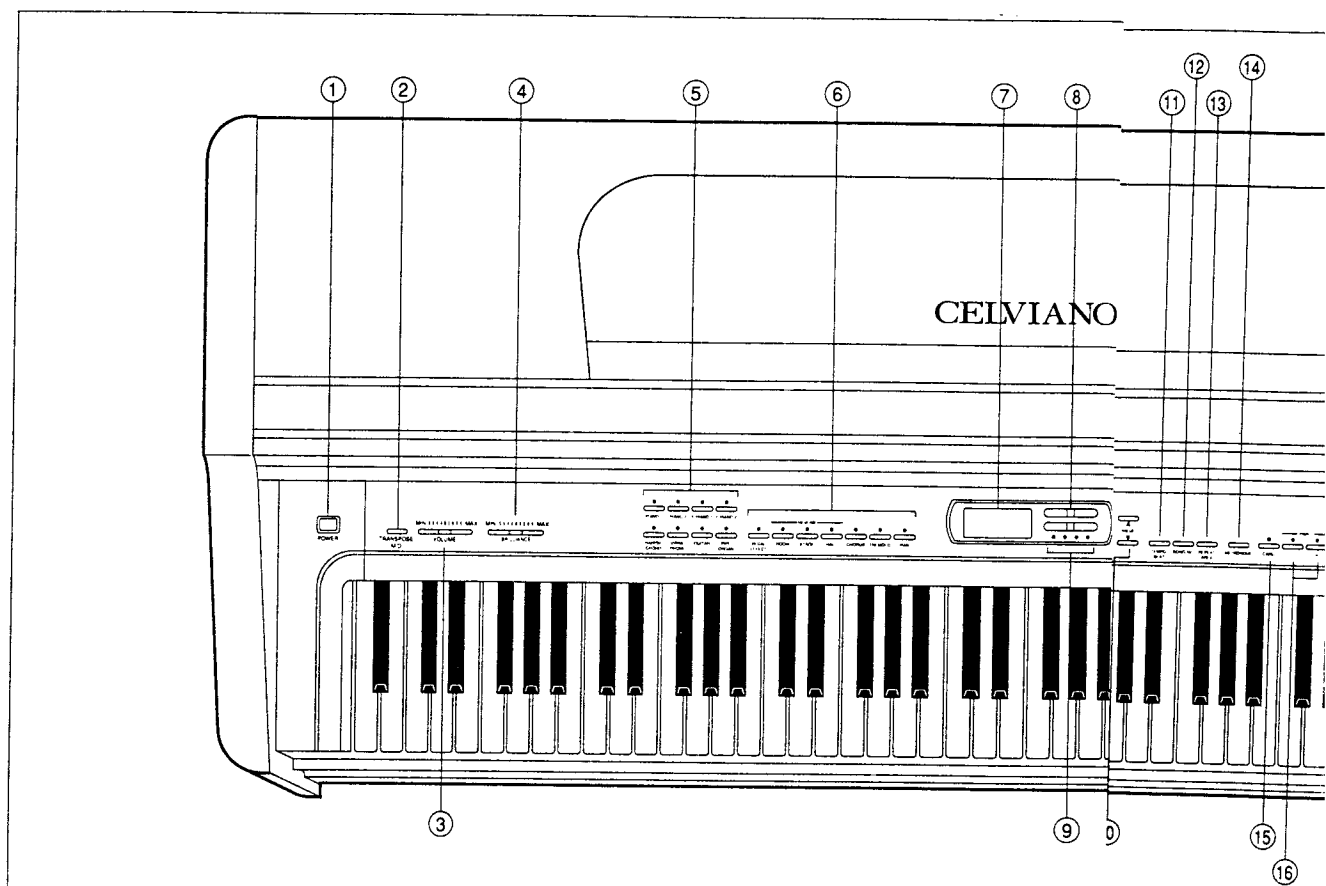
This part of the manual helps you get acquainted with the controls, features, and functions of the piano. It tells you where controllers are located, where to connect cables, etc.

INSIDE PART 1

General Guide 6

PART 1 Getting Acquainted, Getting Started

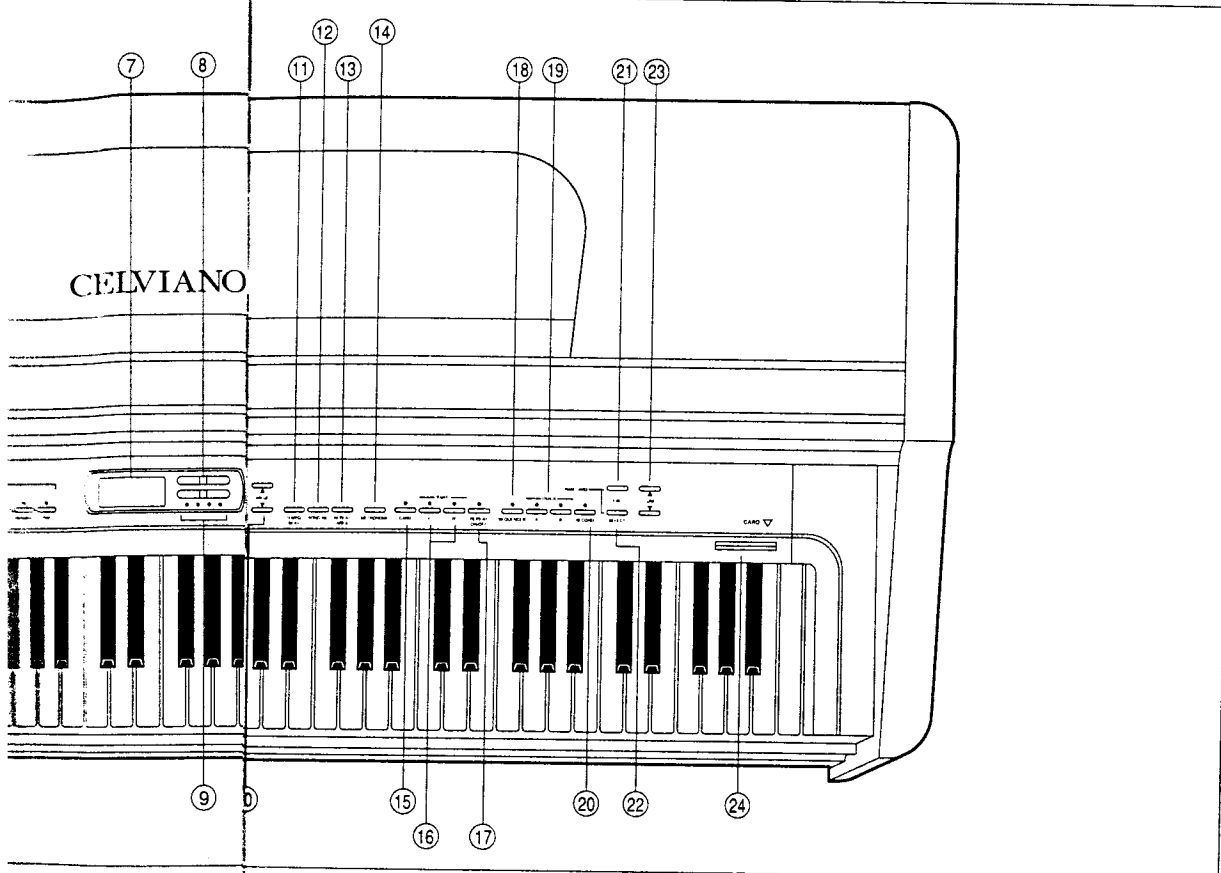
General Guide



- ① **Power Switch**
Switches the keyboard on and off. An indicator on the front left of the keyboard lights when power is on.
- ② **Transpose/MIDI**
Selects between setting of key transpose, setting of MIDI basic channel, and setting of MIDI multi mode.
- ③ **Volume Controller**
Controls overall keyboard volume.
- ④ **Brilliance Controller**
Balances the brightness and mellowness of the output tone.
- ⑤ **Tone Selectors**
Use these selectors to choose a preset tone.
- ⑥ **Effect Selectors**
Use these selectors to choose from among available keyboard effects.

- ⑦ **Display**
Displays operational settings and levels.
- ⑧ **Control Buttons**
Use these buttons to control operation of the card mechanism, sequencer and metronome.
- ⑨ **Beat Indicators**
Flash to indicate the beat currently being played.
- ⑩ **VALUE Keys**
Use these keys to change displayed values and other input data.
- ⑪ **Tempo/Beat Button**
Press to show a display for changing of the tempo and beat settings.
- ⑫ **Song Number Button**
Press to change the current card song number on the display.

- ⑬ **Repeat**
Use t
for re
- ⑭ **Metronome**
Switch
- ⑮ **Card**
Use t
Mode
- ⑯ **Part**
Use t
to be
- ⑰ **Repeat**
Switch
- ⑱ **Sequencer**
Use t
Sequ



13 Repeat Area Button

Use this button to define the area on a card for repeat playback.

14 Metronome Button

Switches the Metronome Function on and off.

15 Card Mode Button

Use this button to enter and exit the Card Mode.

16 Part Buttons

Use these buttons to select the playback part to be switched off.

17 Repeat On/Off Button

Switches card repeat on and off.

18 Sequencer Button

Use this button to enter and exit the Sequencer Mode.

19 Track Buttons

Use these buttons to select between sequencer tracks A and B.

20 Record Button

Use this button to put the keyboard into standby for recording in the Sequencer Mode.

21 RAM Card Execute Button

Use this button to execute a RAM card function.

22 RAM Card Select Button

Press to select a RAM card function.

23 Tuning Buttons

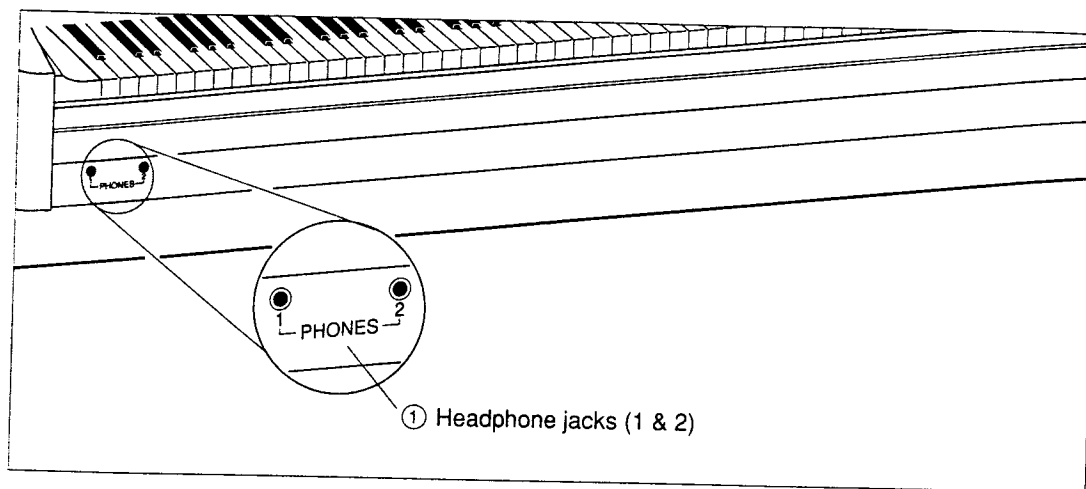
Use these buttons to tune the keyboard.

24 Card Slot

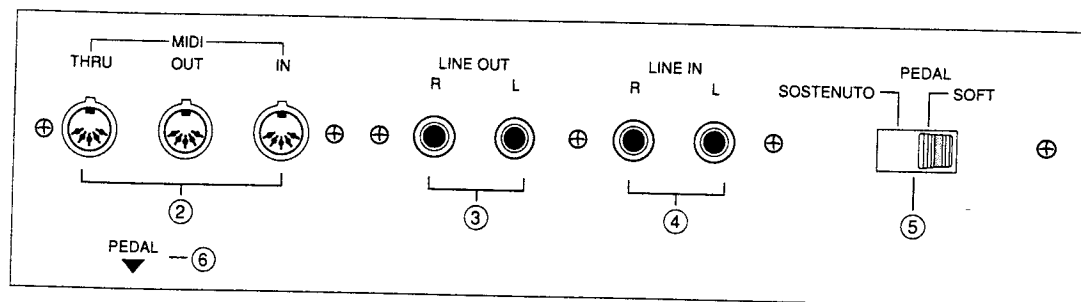
Insert RAM cards and ROM cards here.

PART 1 Getting Acquainted, Getting Started

Front View



External Connections



① Headphone Jacks

For connection of commercially available headphones. Output from the speaker is automatically cut when headphones are connected.

② MIDI Terminals

For connection of other MIDI instruments and devices.

③ Line Out Jacks

For connection of keyboard amplifiers, external speakers, audio equipment, etc.

④ Line In Jacks

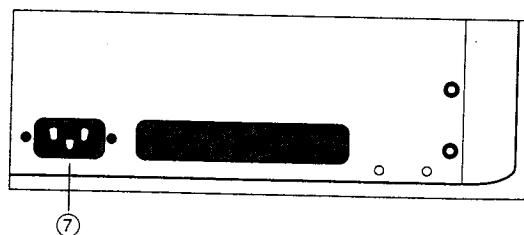
For connection of other instruments, audio equipment, etc. Note that the input sound cannot be controlled by the Volume Controller of this keyboard.

⑤ Pedal Switch

For selection of the "soft" or "sostenuto" effect for the left pedal.

⑥ Pedal Jacks

For connection of pedals.



⑦ AC Power Supply Jack

For connection of power cord.

PART 2 Basic Operation

This part of the manual provides the basic information that you need for operating the AP-5. It is meant to serve as a quick reference that describes the fundamentals of each operation. Because of this, little or no detail is provided.

The page numbers referenced in this section show where you should go for more details.

INSIDE PART 2

Setting Up the Keyboard	10
Using the Card Mode	11
Using the Sequencer Mode	14
Using the Sequencer Mode with the Card Mode	16
Using RAM Cards	16

Setting Up the Keyboard

Use the following procedure to set up the keyboard for play.

■ **To switch the keyboard on** — Page 20



Press the POWER button to switch power on.

■ **To select a tone** — Page 20



Press a TONE selector to select the tone you want to use.

■ **To select an effect** — Page 20



Use the EFFECT selectors to select the effects you want to use.

■ **To adjust the brilliance** — Page 20



Slide BRILLIANCE controller toward the BRIGHT setting for a brighter tone, or toward the MELLOW setting for a more mellow tone.

■ **To switch the Metronome Function on and off** — Page 20



Press the METRONOME button to switch the Metronome function on and off.

■ **To change the key of the keyboard** — Page 22



1. Hold down the TRANPOSE/MIDI button.



2. Use the VALUE ▲ key and VALUE ▼ key to change the key of the keyboard.



3. Release the TRANPOSE/MIDI button again to exit key setting.

■ **To tune the keyboard** — Page 22



Press the TUNING buttons to adjust the tuning of the keyboard.

Using the Card Mode

The Card Mode of the AP-5 lets you use ROM (Read Only Memory) cards to play back performances from prerecorded cards and RAM (Random Access Memory) cards to store performances on the keyboard for later playback (see "Using the Sequencer"). You can also playback the left and right channels individually, adjust the speed of playback, and repeat full selections or parts of selections.

■ To enter and exit the Card Mode — Page 24

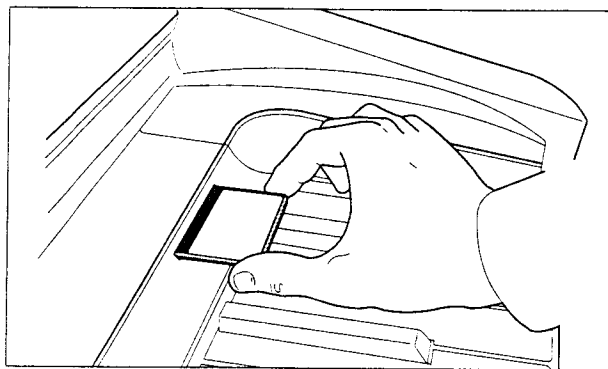


1. Press the CARD MODE button to enter the Card Mode.
2. Press the CARD MODE button again to exit the Card Mode.

■ To insert a card into the keyboard — Page 25

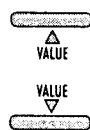


1. Press the CARD MODE button to enter the Card Mode.
2. Insert a card into the card slot.



3. To remove the card, simply pull it out of the keyboard.

■ To select a card song — Page 25



1. Press the VALUE ▲ key to increase the current song number.



2. Press the VALUE ▼ key to decrease the current song number.

■ To start and stop card playback — Page 25



1. Enter the Card Mode and insert a card into the card slot.



2. Press the START/PAUSE button to start playback.



3. To stop playback, press the STOP button.

PART 2 Basic Operation

■ To use cue — Page 26



1. While a card is playing or paused, hold down the CUE button to advance measure-by-measure at high speed.
2. To return to normal play or pause, release the CUE button.

■ To use review — Page 26



1. While a card is playing or paused, hold down the REVIEW button to reverse measure-by-measure at high speed.
2. To return to normal play or pause, release the REVIEW button.

■ To change the tempo — Page 26



1. In the Card Mode, press the TEMPO/BEAT button.
2. Use the VALUE keys to increase or decrease the tempo.
3. Press the TEMPO/BEAT button again to exit tempo setting.

■ To select the type of repeat — Page 28



1. Any time while the card is not playing in the Card Mode, press the REPEAT AREA button.
2. Press one of the VALUE keys. Each time you do, the type of repeat changes in the following sequence.

→ *IP* → *ALL* → *S-E* →



3. After you make your setting, press the REPEAT AREA button again to exit repeat type setting.
4. Use the REPEAT ON/OFF button to switch the selected type of repeat on and off.

■ To repeat play an entire card song — Page 29



1. Select the song that you want to repeat.
2. Select *IP* as the type of repeat.
3. Start playback from the card.
4. Press the REPEAT ON/OFF button.
5. The current card song continues to repeat until you press the STOP button.

■ To repeat play the entire card — Page 29



1. Select *ALL* as the type of repeat.

2. Start playback from the card.



3. Press the REPEAT ON/OFF button.



4. The card continues to repeat until you press the STOP button.

■ To define repeat start and end points — Page 29



1. Select the song that contains the section you want to repeat.

2. Select *S-E* as the type of repeat.



3. Start playback from the card.



4. Press the REPEAT AREA button.



5. Press the VALUE \blacktriangle key at the location in the card song you want to define as the repeat start point.



6. Press the VALUE \blacktriangle key again at the location in the card song you want to define as the repeat end point.



7. Press the REPEAT AREA button to exit repeat point definition and return to the playback display.

■ To start and stop repeat play of a previously defined section — Page 31



1. Select the song in which the section you want to repeat is already defined.

2. Select *S-E* as the type of repeat.



3. Press the REPEAT ON/OFF button.



4. Start playback from the card.

5. Playback from the start point to the end point starts, and continues until you press the STOP button.

Using the Sequencer Mode

The AP-5's two-track sequencer gives you sophisticated digital recording capabilities so you can produce highly polished recordings of your performances. You can use the sequencer by itself, or in combination with the Card Mode to mix and match all types of parts into a finished work. A battery retains your recordings in memory even when the power of the keyboard is switched off.

USING THE SEQUENCER MODE ALONE — Page 33

The following procedures describe how to use the Sequencer Mode alone, without the Card Mode.

■ To enter and exit the Sequencer Mode — Page 33



1. Press the SEQUENCER button to enter the Sequencer Mode.



2. Press the SEQUENCER button again to exit the Sequencer Mode.

■ To record to the sequencer — Page 33



1. Press the SEQUENCER button to enter the Sequencer Mode.



2. Press the RECORD button to enter record standby.



3. If the sequencer is empty, use the VALUE keys to set the tempo.



4. Press the TEMPO/BEAT button to move the cursor to the beat setting.



5. Use the VALUE keys to set the beat.



6. If you want to use the metronome to sound during the recording session, press the METRONOME button to switch it on.



7. Press the START/PAUSE button to start recording.



8. To stop recording, press the STOP button.

■ To playback from the sequencer — Page 34



1. Press the SEQUENCER button to enter the Sequencer Mode.



2. Use the TRACK buttons to select the track(s) you want to play back.



3. Use the VALUE keys to set the tempo for the playback.



4. If you want the metronome to sound during the playback, press the METRONOME button to switch it on.

Using the Sequencer Mode



5. Press the START/PAUSE button to start playback.



6. To stop playback, press the STOP button.

■ To pause during sequencer playback — Page 35



1. While the sequencer is playing, press the START/PAUSE button to momentarily suspend playback.
2. To resume playback, press the START/PAUSE button again.

■ To use cue — Page 36



1. While the sequencer is playing or paused, hold down the CUE button to advance measure-by-measure at high speed.
2. To return to normal play or pause, release the CUE button.

■ To use review — Page 36



1. While the sequencer is playing or paused, hold down the REVIEW button to reverse measure-by-measure at high speed.
2. To return to normal play or pause, release the REVIEW button.

■ To change the tempo — Page 36



1. While sequencer playback is in progress, press the TEMPO/BEAT button.



2. Use the VALUE keys to increase or decrease the tempo setting.



3. After you make your setting, press the TEMPO/BEAT button again to exit tempo setting.

■ To change a sequencer recording from a certain point — Page 36

1. Start playback.



2. Press the RECORD button.



3. Use the TRACK A and TRACK B buttons to select the track you wish to re-record.

4. At the point where you want to re-record, start playing.



5. To stop recording, press the STOP button.

■ To delete sequencer data — Page 37



1. Holding down the TRACK button for the track you want to delete (TRACK A or TRACK B), press the SEQUENCER button.



2. Press the VALUE ▲ key to delete the data for the track you selected in step 1, or the VALUE ▼ key to abort the procedure without deleting any data.

PART 2 Basic Operation

USING THE SEQUENCER MODE WITH THE CARD MODE — Page 38

The following procedures describe how to use the Sequencer Mode in combination with the Card Mode.

■ To enter the Sequencer Mode from the Card Mode — Page 38



1. Insert a Card into the keyboard.



2. Enter the Card Mode.



3. Enter the Sequencer Mode.

■ To coordinate sequencer recording with card playback — Page 38

1. While in the Card Mode, select the card song and tempo you want to playback.



2. Enter the Sequencer Mode.



3. Press the RECORD button to enter record standby and select the track you want to record to.



4. Press the START/PAUSE button to simultaneously start card playback and sequencer recording.



5. To stop recording and disc playback, press the STOP button.

■ To coordinate sequencer playback with card playback — Page 39

1. While in the Card Mode, select the card song you used previously when recording the data stored by the sequencer.



2. Enter the Sequencer Mode.



3. Select the track you want to play back.



4. Press the START/PAUSE button to simultaneously start card and sequencer playback.



5. To stop sequencer and disc playback, press the STOP button.

Using RAM Cards

The following procedures describe how to store sequencer data to and recall data from a RAM card. There are four RAM card functions: save, load, delete, and format. Note that you must format a RAM card before you can use it for data storage.

■ To select a RAM card function — Page 41



1. While no playback (card or sequencer) is being performed by the keyboard, press the RAM CARD SELECT button. Each time you do, the RAM card function changes in the following sequence.

Using RAM Cards

→NORMAL DISPLAY → *SOI* → *LOI* → *dOI* → *FrE* →

(Save) (Load) (Delete) (Format)



2. Press the RAM CARD SELECT button again to exit this display.

■ To format a RAM card — Page 41



1. Insert a RAM card into the card slot.



2. Select FORMAT as the RAM card function.

IMPORTANT

The next step deletes all data that may already be stored on the RAM card. Make sure that the RAM card loaded into the keyboard is a new one or, if it already contains data, that you no longer need the data.



3. Press the EXE button to format the RAM card.

■ To save sequencer data to a RAM card — Page 42



1. Insert a RAM card into the card slot.



2. Select SAVE as the RAM card function.



3. Use the VALUE keys to assign a song area number.

IMPORTANT

If the song area number you selected in step 3 above already contains data, the next step erases the existing data.



4. Press the EXE button to save the data.

■ To load sequencer data from a RAM card — Page 42



1. Insert the RAM card that contains the data into the card slot.



2. Select LOAD as the RAM card function.



3. Use the VALUE keys to specify the number of the song area that contains the data you want to load.

IMPORTANT

The next step deletes all data that may already be stored on the AP-5 sequencer. Either save the sequencer data to a RAM card or make sure that you no longer need the sequencer data.



4. Press the EXE button to load the data.

■ **To delete sequencer data from a RAM card** — Page 42



1. Insert the RAM card that contains the data into the card slot.



2. Select DELETE as the RAM card function.



3. Use the VALUE keys to specify the number of the song area that contains the data you want to delete.

IMPORTANT

The next step deletes all data stored in the song area number you selected in step 3 above. Make sure that you no longer need the data in the selected song area before continuing.



4. Press the EXE button to delete the data.

PART 3 Operation Reference

This part of the manual provides all of the technical details that apply to each operation that can be performed on the keyboard. Key operations along with illustrations of the display as it should appear are provided, along with detailed notes and precautions. You should read this part of the manual at least once to familiarize yourself with the full potential of the keyboard's features and functions.

INSIDE PART 3

Setting Up the Keyboard	20
Using the Card Mode	24
Using the Sequencer Mode	33
Using RAM Cards	41

Setting Up the Keyboard

Use the following procedure to set up the keyboard.

To switch the keyboard on



Press the POWER button to switch power on.

120

NOTE

See page 23 for important information on how you can set up the soft sostenuto pedal (the left pedal) to act as a "review pedal" or a "start/pause pedal."

To select a tone



Press a TONE selector to select the tone you want to use.

- You can select from among Piano 1, Piano 2, Electric Piano 1, Electric Piano 2, Harpsichord, Vibraphone, Guitar, and Pipe Organ. The indicator above the currently selected tone lights to indicate that it is selected.
- If you change the tone selection while a keyboard key is depressed, the tone does not change immediately. The new tone starts to sound when you press another keyboard key.

To select an effect



Use the EFFECT selectors to select the effects you want to use. The indicator above the currently selected effect lights to indicate that it is selected. See "About effects" on the following page.

To adjust the brilliance



Slide BRILLIANCE controller toward the BRIGHT setting for a brighter tone, or toward the MELLOW setting for a more mellow tone.

To switch the Metronome Function on and off



Press the METRONOME button to switch the Metronome function on and off. The indicator above the button lights to indicate that the function is on.

To change the tempo



1. Press the TEMPO/BEAT button to display the tempo.

120



2. Press the VALUE ▲ key to increase the tempo value (increasing the speed of the metronome), or the VALUE ▼ key to decrease it. You can set the tempo within the range of ♩ = 30 to 300.

126

Setting Up the Keyboard

About effects...

The following five effects can be activated individually or in any combination. Note, however, that only one of the available REVERB effects can be active at any time.

PEDAL EFFECT	<p>This button controls the AP-5's damper pedal</p> <p>When Pedal Effect is off (when the indicator above this button is not lit), the damper pedal operates as a standard sustain pedal. When the damper pedal is depressed, notes played on the keyboard are sustained, even when the keyboard keys are released.</p> <p>When Pedal Effect is on (its indicator is lit), a special "reverb plus chorus" effect is applied to notes played while the damper pedal is depressed. This produces an effect similar to that obtained with the damper pedal of a grand piano. The Pedal Effect sounds best with the PIANO 1 tone.</p>						
REVERB	<p>Pressing one of these three buttons selects the type of reverberation to apply to the sound produced by the AP-5. A Reverb Effect is on when the indicator above its button is lit.</p> <table> <tr> <td>ROOM</td><td>Small room</td></tr> <tr> <td>STAGE</td><td>Small hall</td></tr> <tr> <td>HALL</td><td>Large hall</td></tr> </table>	ROOM	Small room	STAGE	Small hall	HALL	Large hall
ROOM	Small room						
STAGE	Small hall						
HALL	Large hall						
CHORUS	<p>The Chorus Effect makes a single tone sound as if it is being produced by multiple instruments. The Chorus Effect is on when the indicator above this button is lit.</p>						
TREMOLO	<p>The Tremolo Effect causes speaker output to swell at a fixed interval. This effect sounds best with the E.PIANO and VIBRAPHONE tones. The Tremolo Effect is on when the indicator above this button is lit.</p>						
PAN	<p>The Pan Effect causes the low notes to be output by the left speaker and the high notes to be output by the right speaker. The Pan Effect is on when the indicator above this button is lit.</p>						

To change the number of beats per measure

1. Press the TEMPO/BEAT button to display the number of beats per measure.
2. Press the VALUE ▲ key to increase the beat value (increasing the number of beats per measure), or the VALUE ▼ key to decrease it. You can set the number of beats as 0 (no accent), 2, 3, 4, 5, or 6.

To reset the tempo and beat to their standard values

- Press the VALUE ▲ key and the VALUE ▼ key at the same time to reset the tempo value to ♩ =120 and the beat value to 4. See "About the Metronome Function..." on the following page.

PART 3 Operation Reference

About the Metronome Function...

When the Metronome Function is switched on, the keyboard emits a metronome-like sound at the tempo speed you set. The first beat of each measure is accented unless you set the beat value as zero. In addition, beat indicators show you exactly what beat of the measure is being counted by the metronome. The following shows how the beat indicators operate for each type of beat setting.

Beat	Beat indicators	Count	Beat	Beat indicators	Count
0 (no accent)	○ ○ ○ ○	1	5	○ ○ ○ ○	1
	○ ○ ○ ○	2		○ ○ ○ ○	2
	○ ○ ○ ○	3		○ ○ ○ ○	3
	○ ○ ○ ○	4		○ ○ ○ ○	4
2	○ ○ ○ ○	1		○ ○ ○ ○	5
	○ ○ ○ ○	2	6	○ ○ ○ ○	1
3	○ ○ ○ ○	1		○ ○ ○ ○	2
	○ ○ ○ ○	2		○ ○ ○ ○	3
	○ ○ ○ ○	3		○ ○ ○ ○	4
4	○ ○ ○ ○	1		○ ○ ○ ○	5
	○ ○ ○ ○	2		○ ○ ○ ○	6
	○ ○ ○ ○	3			
	○ ○ ○ ○	4			

= accented beat
 / = the beat indicator that lights according to the count

To change the key of the keyboard

1. While no playback or metronome operation is being performed by the keyboard, hold down the TRANSPOSE/MIDI button.
2. Use the VALUE ▲ key and VALUE ▼ key to change the key of the keyboard. Press both VALUE keys at the same time to set the key to C.
3. Release the TRANSPOSE/MIDI button to exit key setting.

C

b

120

- If you change the key while a note is sounding, the key does not change immediately. The new key takes effect with the next note.

To tune the keyboard

Press the TUNING buttons to adjust the tuning of the keyboard. The standard tuning is A₄ = 440 Hz.

Press both TUNING buttons at the same time to tune the keyboard to 440 Hz.

Setting Up the Keyboard

About the keyboard pedals...

The AP-5 is equipped with two pedals: a damper pedal and a soft/sostenuto pedal. Besides their normal piano-like operations, the soft/sostenuto pedal can also be used to control card and sequencer playback operations.

Damper pedal

The damper pedal of the AP-5 produces the same effect as the damper pedal of an acoustic piano. By depressing the damper pedal, the sustain effect will cause the notes played to be held even after the keys of the keyboard are released. The AP-5 has five separate damper control levels, depending on how far down you depress the pedal. Also note that the effect of this pedal is applied even on keys that are already depressed when you press the pedal.

Soft/sostenuto pedal (the left pedal)

It's important to note that only one of the soft or sostenuto effects can be used at a time. You can select the one you want to use with the pedal switch located on the rear panel. If the "soft" effect is selected, keyboard volume is lowered when the left pedal is depressed.

If the "sostenuto" effect is selected, the damper effects (sustain and reverb) will effect only the notes played when the left pedal is depressed. The sostenuto pedal is normally found on grand pianos, and it adds a sustain effect to certain notes while allowing other notes to be played in staccato and other styles.

If you hold down the left pedal when you switch on keyboard power, the pedal becomes an operation pedal.

When the pedal switch is set to "SOFT," the left pedal becomes a "review pedal." You can press this pedal in any operation in place of the REVIEW button. With this function, you can reverse the playback of a card or the sequencer without removing your hands from the keyboard, making this function a valuable practice aid.

When the pedal switch is set to "SOSTENUTO," the left pedal becomes a "start/pause pedal." You can press this pedal in any operation in place of the START/PAUSE button. With this function, you can start and pause the playback of a card or the sequencer without removing your hands from the keyboard.

Count

1

2

3

4

5

1

2

3

4

5

6

C

b

120

Using the Card Mode

The Card Mode lets you use ROM (Read Only Memory) cards to play back performances from pre-recorded cards and RAM (Random Access Memory) cards to store performances for later playback (see "Using the Sequencer").

About card song types...

There are four basic types of card songs that can be played back in the Card Mode. The following defines each type of song, and explains the capabilities and limitations of each type.

- | | |
|-----------------------|--|
| Type A songs | This type of song is for practice. All of the songs on the card that comes with the AP-5 are Type A songs. The left hand part is on a separate track from the right hand part, so you can switch either one off to practice the other. With Type A Songs, you can change the playback tones by using the Tone Selectors on the keyboard. |
| Type B songs | This song is designed for listening enjoyment, with no separation of parts between tracks. Because of this, you cannot switch parts off and the OFF PART button does not operate for playback of this type of song. With Type B songs, you can change the playback tones by using the Tone Selectors on the keyboard. |
| Type C songs | This type of song uses different keyboard tones in each of the tracks, giving the impression of two different musical instruments playing a duet. You can switch either of the parts off and play along in a duet with the remaining part. Though you cannot change the playback tone with Type C songs, you can control the tone of the keyboard when you play along. |
| RAM Card songs | This type of song is recorded to a RAM card using the Sequencer Mode of the AP-5 (see "Using the Sequencer" on page 33). The 2 playback tracks correspond to the sequencer tracks used when the recording was made. Since the sequencer also records tone data onto the RAM card, you cannot change the playback tone with RAM Card Songs. |

To enter and exit the Card Mode



1. Press the CARD MODE button to enter the Card Mode.

If a card is loaded in the keyboard when you enter the Card Mode, the display shows the current song, measure, and beat numbers. It also shows the current tempo value and repeat type.

C 0 1

If no card is loaded the display as shown on the right.

[- -



2. Press the CARD MODE button again to exit the Card Mode. When you do, the tempo and beat settings made in the Card Mode remain in effect.

2 3 0

Using the Card Mode

To insert a card into the keyboard

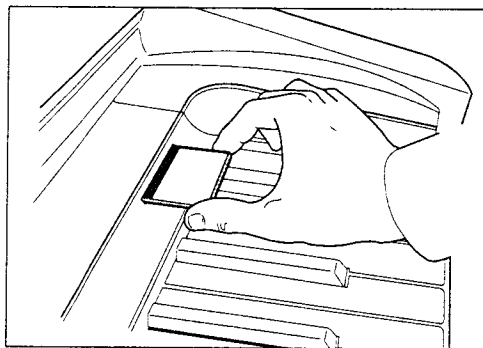


1. Press the CARD MODE button to enter the Card Mode.

C - -

2. Insert a card into the card slot.

C 0 1



To select a card song



1. Press the VALUE ▲ key to increase the current song number.

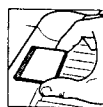
C 0 2



2. Press the VALUE ▼ key to decrease the current song number.

C 0 1

To start and stop card playback



1. Enter the Card Mode and load a card into the keyboard.

C 0 1



2. Press the START/PAUSE button to start playback.

The display changes to a measure display that counts down from -1 measure (the beat count is shown by the beat indicator). Playback then starts from the card song whose number was displayed when you pressed START/PAUSE.

As play progresses, the measure and beat count is shown on the display.

1 4



3. To stop playback, press the STOP button. The number of the song that was playing appears on the display. If you allow the card to continue to play, playback stops automatically once the end of the current song is reached, unless you have the Card Mode set for repeat play.

C 0 1

PART 3 Operation Reference

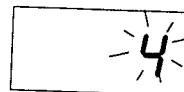
NOTE

The START/PAUSE button does not operate if you press it while a song number that does not have any data recorded is shown on the display.

To pause during card playback



1. While a card is playing, press the START/PAUSE button to momentarily suspend playback. The number of the measure that was playing when you press START/PAUSE playback flashes on the display to indicate that playback is paused.



The following operations are valid while playback is paused.



Moves the location of the pause forward in measure increments.



Moves the location of the pause back in measure increments.



2. To resume playback, press the START/PAUSE button again.



To use cue



1. While a card is playing or paused, hold down the CUE button to advance measure-by-measure at high speed. You will not be able to hear the high speed forward playback.

If you reach the end of the current card song while advancing at high speed, review operation stops.

2. To return to normal play or pause, release the CUE button.

To use review



1. While a card is playing or paused, hold down the REVIEW button to reverse measure-by-measure at high speed. You will not be able to hear the high speed reverse playback.

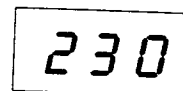
If you reach the beginning of the current card song while advancing at high speed, review operation stops.

2. To return to normal play or pause, release the REVIEW button.

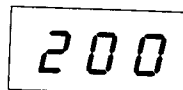
To change the tempo



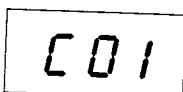
1. In the Card Mode (either while playback is stopped or in progress), press the TEMPO/BEAT button to display the current tempo setting.



2. Use the VALUE keys to increase or decrease the tempo setting. You can set the tempo within the range of ♩ = 30 to 300.



3. After you make your setting, press the TEMPO/BEAT button



Using the Card Mode



- Press the START/PAUSE button to start playback at the tempo you selected.

- 1

To reset the tempo to its original value



- If the display does not indicate the tempo value, press the TEMPO/BEAT button to display the current tempo setting.

200



- Press the VALUE ▲ key and the VALUE ▼ key at the same time to reset the tempo value to its original value.

230

About the Card Mode's off part function...

You can use the Card Mode's Off Part Function to perform the following operations.

- To switch off the left hand or right hand part of a Type A song to practice the part of the other hand.
- To switch off either channel of a Type C song and play along with the other channel.
- To switch off either channel of a RAM Card song and play along with the other channel.

To switch a playback part off



While the song number of a Type A, Type C or RAM Card Song is shown on the display, press the PART buttons.

NOTES

- The PART buttons do not operate while the song number of a Type B song is selected.
- Both the left and right parts are switched on automatically when playback changes to another song.

About the Card Mode's Repeat Playback Function...

The Card Mode's Repeat Playback Function lets you set up the keyboard to repeatedly play back all of the songs on a card, one particular song, or one section within a song. You can define a difficult passage of a song for repeat and then keep playing it until you have it mastered.

To select the type of repeat

1. Any time while the card is not playing in the Card Mode, press the REPEAT AREA button. IP
2. Press one of the VALUE buttons. Each time you do, the type of repeat changes in the following sequence. ALL

→ IP → ALL → S-E →

IP Repeats a single card song.

ALL Repeats an entire card.

S-E Repeats a specific section within a card song.
3. After you make your setting, press the REPEAT AREA button again to exit repeat setting. C01
4. Use the REPEAT ON/OFF button to switch the selected type of repeat on and off.

To repeat play an entire card song

1. Select the song you want to repeat. C02
2. Select **IP** as the type of repeat. IP
3. Start playback from the card. -1
4. Press the REPEAT ON/OFF button.
5. The current card song continues to repeat until you press the STOP button. C02

Using the Card Mode

To repeat play the entire card



1. Select **ALL** as the type of repeat.

ALL



2. Press the REPEAT ON/OFF button.



3. Start playback from the card.

-1



4. The card continues to repeat until you press the STOP button.

C02

To define repeat start and end points



1. Select a song that does not yet contain start and end points. If the song already contains start and end points, you must delete them before you set new ones.

C03



2. Select **S-E** as the type of repeat.

S-E



3. Start playback from the card.

-1



4. Press the REPEAT AREA button to tell the keyboard you want to set the repeat area.



5. Press the VALUE ▲ key at the location in the card song you want to define as the repeat start point.

S-E



6. Press the VALUE ▲ key again at the location in the card song you want to define as the repeat end point. If the REPEAT ON/OFF button is ON, playback starts to repeat between the two points you defined.

S-E

If the end of the song is reached before you define an end point, playback will stop automatically.



7. Press the REPEAT AREA button to exit repeat point definition and return to the playback display.


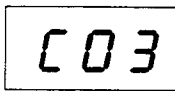


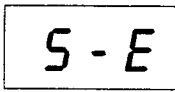



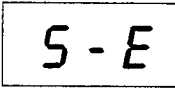

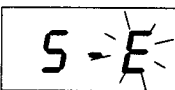



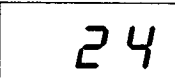
24

PART 3 Operation Reference

NOTES

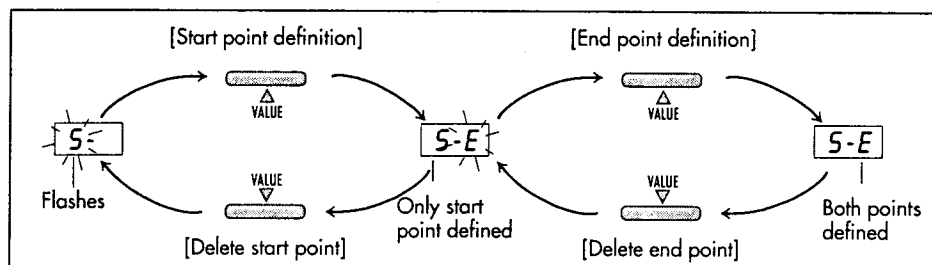
- You can define a start point and end point for each song on the card, but each song can contain only one start point and one end point.
- Each start point and its end point must be within the same song, and the end point cannot be located before the start point.
- The type of repeat changes automatically from *S-E* to *IP* whenever you select a different song for playback.

To delete previously defined start and end points

- Select the song that contains the points you want to delete.


- Select *S-E* as the type of repeat.



- Start playback from the card.


- Press the REPEAT AREA button.


- While the card song that contains start and end points is playing, press the VALUE ∇ key to delete the end point.


- Press the VALUE ∇ key again to delete the repeat start point.


 You can now define new start and end points.
- Press the REPEAT AREA button to return to the playback display.



NOTES

- If *IP* or *ALL* is selected as the repeat type, nothing happens when you press the REPEAT AREA button during card playback.
- The following shows how you can move among the different start and end point displays using the VALUE keys.



ach song can contain
end point cannot be
elect a different song

C 0 3

S - E

- 1

S - E

S - E

S -

2 4

ie REPEAT AREA
oint displays using

S - E
Both points
defined

Using the Card Mode

- You can exit the repeat point definition procedure at any time by pressing the REPEAT AREA button, even if you are not finished defining the start and end points.
- If you have only a start point defined for a card song, playback stops when the end of that song is reached, regardless of whether the REPEAT ON/OFF button is switched on or off. If you press the START/PAUSE button to restart playback, the same card song starts to play again from the beginning.
- You cannot set an end point in front of a start point. If the card song that is currently playing has only a start point defined, the VALUE ▲ key does not operate until you pass the start point.

To start and stop repeat play of a previously defined section



1. Select the song in which the section you want to repeat is already defined.

C 0 3



2. Select S-E as the type of repeat.

S - E

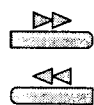


3. Press the REPEAT ON/OFF button.



4. Start playback from the card.

- 1



5. While repeat is on you can use the CUE and REVIEW buttons to playback at high speed. If you reach the repeat end point while cuing, playback automatically stops. If you reach the repeat start point while reviewing, the review operation stops.



6. Playback of the section continues to repeat until you press the STOP button.

C 0 3

To coordinate card playback with the Metronome Function



1. While a ROM card or RAM card is inserted in the keyboard, press the METRONOME button to switch the Metronome Function on.



2. Start playback from the card. The metronome sounds in time with the playback.

NOTE

- The Metronome Function cannot be used with certain ROM card songs, because such songs are recorded using a free, unrestricted beat. One such song is "Grande Valse Brillante" on the ROM card that comes with the keyboard. The Metronome Function switches off automatically when such a song is selected.

Initial Card Mode Settings

The following show the initial settings of the Card Mode whenever the power of the keyboard is switched on.

- Card Song Number: 1
- Tempo: Song Number 1 tempo
- Off Part: None (L/R on)
- Repeat Mode: (SONG)
- Repeat on/off: Off
- Metronome: Off

Retained Card Mode Settings

The following are the settings of the Card Mode that do not change when you exit the Card Mode, unless you remove the card or switch of the power of the keyboard off.

- Card Song Number
- Repeat Area Type

Using the Sequencer Mode

The AP-5's two-track sequencer gives you digital recording capabilities that can be used by itself, or in combination with the Card Mode. A battery retains recordings even when the power of the keyboard is switched off. The following shows the capacity of the sequencer.

- Memory Capacity: 128 kbits (about 2,800 notes)
- Number of Tracks: 2 (variable length)
- Song Length: Up to 999 measures
- Resolution: 48/♩
- Tempo Setting Range: ♩ = 30 to 300
- Recorded Data: Keyboard data (recorded independently on each track)
Pedal operation data (recorded independently on each track)
Tone select data (recorded independently on each track)
Tempo/Beat setting (same for both tracks)

■ USING THE SEQUENCER MODE ALONE

The following procedures describe how to use the Sequencer Mode without the or Card Mode.

To enter and exit the Sequencer Mode


SEQUENCER

1. Press the SEQUENCER button to put the keyboard into the Sequencer Mode. A tempo value appears on the display. If a card is loaded into the keyboard, this value indicates the tempo for the currently selected card song. If no card is loaded this value indicates the tempo recorded in the sequencer.

If the sequencer does not operate...

If you enter the sequencer from the Card Mode, the sequencer will not operate if the number of beats per measure for the currently selected card song does not match the number of beats per measure set for the sequencer. In such a case, an error display appears, followed by the normal card song number display.

NOTE

The REPEAT ON/OFF button does not operate in the Sequencer Mode.


SEQUENCER

2. Press the SEQUENCER button again to exit the Sequencer Mode.

To record to the sequencer


SEQUENCER

1. Press the SEQUENCER button to put the keyboard in Sequencer Mode.


RECORD

2. Press the RECORD button and the indicator above the button flashes to indicate that the keyboard is in record standby. The indicator above the button for the track that's ready for recording (see note below) also flashes.

You can abort the recording sequence at any time by pressing the RECORD button again.

PART 3 Operation Reference



3. If the sequencer is empty (see notes below) you can set the tempo and beat values. First, use the VALUE buttons to set the tempo for the recording.

110



4. Next, press the TEMPO/BEAT button to display the number of beats per measure.

4



5. Use the VALUE keys to set the beat value for the recording.

3



6. If you want to use the metronome to sound during the recording session, press the METRONOME button to switch it on.



7. Press the START/PAUSE button to start recording. At this point, the indicator above the RECORD button lights (stops flashing). The display changes to a measure display that counts down from -2 measures (the beat count is shown by the beat indicator). If you switched on the metronome in step 6, the metronome also starts to sound. Note that the start of the record operation deletes any data that was previously recorded in that track.

-2

IMPORTANT



- The pause, cue, and review operations are not available during the record operation.
- When there is memory remaining for about 100 more notes, the display starts to flash, indicating that sequencer memory is almost full.
- 8. To stop recording, press the STOP button. At this point, the indicator above the button of the track being recorded to lights (stops flashing).

About the tempo and beat settings...

The same tempo and beat data is recorded to both tracks. For example, if you set a tempo value of 142 and a beat value of 3 and record to Track A, the same settings are automatically applied when you record another part to Track B. In this example, the beat value set for Track A cannot be changed when you are recording Track B. You can change the tempo value when recording Track B, but when you play back the song the tempo value you set for Track B will be used.

To playback from the sequencer



1. Press the SEQUENCER button to enter the Sequencer Mode.



2. Use the TRACK buttons to select the track(s) you want to play back. (See "About track selections..." on the following page.)



3. Use the VALUE keys to set the tempo for the playback.

110

Using the Sequencer Mode

 METRONOME

4. If you want the metronome to sound during the playback, press the METRONOME button to switch it on.



5. Press the START/PAUSE button to start playback. The display changes to a measure display that counts down from -1 measure (the beat count is shown by the beat indicator). Playback then starts, with the current measure number shown on the display.

- 1



6. To stop playback, press the STOP button.

If you allow the recording to continue to play, it stops playback automatically once the end is reached.

To pause during sequencer playback



1. While the sequencer is playing, press the START/PAUSE button to momentarily suspend playback.

The following operations are valid while playback is paused.



Moves the location of the pause forward in measure increments.



Moves the location of the pause back in measure increments.



2. To resume playback, press the START/PAUSE button again.

5

About track selections...

The following describes how the keyboard selects the track for recording when you press the RECORD button. Note in the operations described below that you can only change the track being recorded to by pressing the opposite track's button. Pressing a TRACK button whose indicator is flashing does not perform any operation.

- **When both tracks are switched off**

When the indicators above both track buttons are unlit (meaning the tracks are both switched off), Track A is automatically selected as the track to be recorded to. When you press the RECORD button the indicator above the Track A button begins to flash. At this point, you can change to Track B by pressing the TRACK B button. This causes the indicator above the TRACK A button to go out, and makes the indicator above the TRACK B button flash, indicating that it is ready for recording.

- **When one track is switched on**

When an indicator above either of the track buttons is lit (meaning one track is switched on and the other track is switched off), the track that is switched on is automatically selected as the track to be recorded to. When you press the RECORD button the indicator above the track that is switched on begins to flash. At this point, you can change to the other track by pressing its TRACK button.

- **When both tracks are switched on**

When the indicators above both track buttons are lit (meaning the tracks are both switched on), Track A is automatically selected as the track to be recorded to. When you press the RECORD button the indicator above the TRACK A button begins to flash and the indicator above the TRACK B button remains lit. At this point, you can change to Track B by pressing the TRACK B button. This causes the indicator above the TRACK A button to light (stop flashing), and makes the indicator above the TRACK B button flash, indicating that it is ready for recording.

To use cue



1. While the sequencer is playing or paused, hold down the CUE button to advance measure-by-measure at high speed. You will not be able to hear the high speed forward playback. If you reach the end of the recording while advancing at high speed, playback stops automatically.
2. To return to normal play or pause, release the CUE button.

To use review



1. While the sequencer is playing or paused, hold down the REVIEW button to reverse measure-by-measure at high speed. You will not be able to hear the high speed reverse playback. If you reach the beginning of the recording while reviewing at high speed, playback stops automatically.
2. To return to normal play or pause, release the REVIEW button.

To change the tempo



1. While sequencer playback is in progress, press the TEMPO/BEAT button to display the tempo value.
2. Use the VALUE keys to increase or decrease the tempo setting. You can set the tempo within the range of ♩ = 30 to 300.
3. After you make your setting, press the TEMPO/BEAT button again to exit tempo setting.

110

115

32

To reset the tempo to its recorded value



Press the VALUE ▲ key and the VALUE ▼ key at the same time to reset the tempo value to its recorded value.

To change a sequencer recording from a certain point



1. Start playback from the sequencer.
2. When playback is almost up to the point from where you want to re-record, press the RECORD button. The indicators above the RECORD button and the track to be recorded to start to flash, as playback continues. Note that no recording is being performed yet.

You can abort the recording sequence at any time by pressing the RECORD button again.



3. Use the TRACK A and TRACK B buttons to select the track you wish to re-record (see below). Make sure that the indicator above the TRACK button that corresponds to the track you want to record over is flashing.

Using the Sequencer Mode

- At the point where you want to re-record, start playing. What you play records over what was in the selected track previously. Keep playing to the end.
- To stop recording, press the STOP button.



About track selections...

The following describes how the keyboard selects the track for re-recording when you press the RECORD button.

- **When one track is playing back**

When only one of the tracks is playing back (indicator above either of the track buttons is lit), the track that is playing back is automatically selected as the track to be re-recorded. Once you press the RECORD button, the indicator above the track that is playing back begins to flash. At this point, you cannot change to the other track.




- **When both tracks are playing back**

When both the tracks are playing back (indicators above both of the track buttons are lit), Track A is automatically selected as the track to be re-recorded to. When you press the RECORD button the indicator above the TRACK A button begins to flash and the indicator above the TRACK B button remains lit. At this point, you can change to Track B by pressing the TRACK B button. This causes the indicator above the TRACK A button to light (stop flashing), and makes the indicator above the TRACK B button flash, indicating that it is ready for re-recording.

IMPORTANT

- The pause, cue, and review operations can be used with the playback preceding the actual start of recording.
- Once actual recording starts, the pause, cue, and review operations are not available.

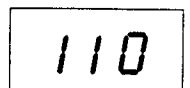
To delete all sequencer data

 or  + 

- Hold down a TRACK button and press the SEQUENCER ON/OFF button.



- Press the VALUE ▲ key to delete all sequencer data. To abort the procedure without deleting any data, press the VALUE ▼ key.



PART 3 Operation Reference

■ USING THE SEQUENCER MODE WITH THE CARD MODE

The following procedures describe how to use the Sequencer Mode with ROM cards in the Card Mode.

To enter the Sequencer Mode from the Card Mode



1. Insert a card into the keyboard.



CARD

2. Enter the Card Mode.

C 0 1



SEQUENCER

3. Enter the Sequencer Mode. The display indicates the tempo value of the card song which is selected in the Card Mode.

2 3 0

IMPORTANT

You cannot enter the Sequencer Mode from the Card Mode if the beat value for data previously stored in the sequencer does not match the beat value stored with the currently selected card song (whose song number is shown on the display). If you try to enter the sequencer under such conditions, the error message shown to the right appears on the display. In this case, you have to delete the sequencer data (see page 37) or select a card song whose beat value matches that of the sequencer before you can enter the Sequencer Mode from the Card Mode.

b e r

To coordinate sequencer recording with card playback

1. While in the Card Mode, select the card song and tempo you want to playback as described under "Using the Card Mode" on page 24. With certain types of cards, you can also switch parts off and turn the metronome on.

C 0 1



SEQUENCER

2. Enter the Sequencer Mode.

2 3 0



RECORD

3. Press the RECORD button to enter record standby and select the track you want to record to as described under "To record to the sequencer" on page 33.

You can abort the recording sequence at any time by pressing the RECORD button again.

Using the Sequencer Mode



- Press the START/PAUSE button to simultaneously start card playback and sequencer recording. The display changes to a measure display that counts down from -2 measures (the beat count is shown by the beat indicator). If you switched on the metronome, the metronome also starts to sound. Note that the start of the record operation deletes any data that was previously recorded in that track.

- 2



- To stop recording and card playback, press the STOP button. If you allow the card to continue to play, it stops playback automatically once the end of the song is reached.

230

NOTE

- With the recording procedure you can play along with a card while recording to the sequencer, but only the notes you play on the keyboard are recorded. The output from the card is not recorded.
- If you change the card playback tempo in the above procedure, the sequencer tempo setting also changes to match.
- Once you start recording, the pause, cue, and review operations are not available.
- When there is memory remaining for about 100 more notes, the display starts to flash, indicating that sequencer memory is almost full.

To coordinate sequencer playback with card playback

- While in the Card Mode, select the card song you used when recording to the sequencer, as described under "Using the Card Mode" on page 24. Note that you can also set the off part as described under "To switch a playback part off" on page 27.

C01



- Enter the Sequencer Mode.

230



- Select the track you want to play back to as described under "To playback from the sequencer" on page 34.



- Press the START/PAUSE button to simultaneously start card and sequencer playback. The display changes to a measure display that counts down from -1 measure (the beat count is shown by the beat indicator).

- 1



- To stop playback, press the STOP button. If you allow playback to continue, it stops automatically once the end of the song is reached.

230

NOTE

- With the playback procedure, the playback of sequencer data is automatically timed to start with playback of the card.
- Be sure that you select the same card song that you used when recording to the sequencer, otherwise the card/sequencer playback will not match.

To change a card/sequencer recording from a certain point

1. Start coordinated playback of the card and sequencer.
2. When playback is almost up to the point from where you want to re-record the sequencer data, press the RECORD button. The indicators above the RECORD button and the track to be recorded to start to flash, as playback continues. Note that no recording is being performed yet.

You can abort the recording sequence at any time by pressing the RECORD button again.



3. Use the TRACK A and TRACK B buttons to select the track you wish to re-record. Make sure that the indicator above the TRACK button that corresponds to the track you want to record over is flashing.



4. At the point where you want to re-record, start playing. What you play records over what was in the selected track previously. Keep playing to the end.
5. To stop recording, press the STOP button.

■ Memory Backup Battery

This unit comes with a lithium battery that supplies the power required to retain sequencer data when power is turned off. The life of this battery is about 5 years, and so it must be replaced periodically. Note that sequencer data will be lost whenever you switch power off while the battery is dead.

IMPORTANT

The backup battery must be replaced by an authorized Casio service representative. Contact your local Casio Service Center once every 5 years to arrange to have the battery replaced.

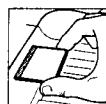
WARNING

- The lithium battery used for memory backup presents fire, explosion, and severe burn hazard. Be sure to contact an authorized Casio Service Center to have the battery replaced.
- Casio Computer Co., Ltd. assumes no responsibility for any damage or loss caused by deletion of sequencer data as a result of malfunction, repairs, or battery replacement. Be sure to back up all important data on optional RAM cards (RA-500) to protect against its loss.

Using RAM Cards

The following procedures describe how to store sequencer data to and recall data from a RAM card. There are four RAM card functions: save, load, delete, and format. Note that you must format a RAM card before you can use it for data storage.

To select a RAM Card Function



1. Insert a RAM card into the card slot.



2. While no card playback is being performed by the keyboard, press the RAM CARD SELECT button. Each time you do, the RAM card function changes in the following sequence.

→NORMAL DISPLAY → *SOI* → *LOI* → *dOI* → *Fr t* →

(Save) (Load) (Delete) (Format)

NORMAL DISPLAY Display when no playback is being performed.

SOI Saves sequencer contents to RAM card.

LOI Loads one song from RAM card to sequencer.

dOI Deletes one song from RAM card.

Fr t Formats (initializes) RAM card.

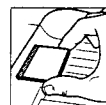
SOI



3. Press the RAM CARD SELECT button again to exit this display.

120

To format a RAM card



1. Insert a RAM card into the card slot.



2. Select FORMAT as the RAM card function.

Fr t

IMPORTANT

The next step deletes all data that may already be stored on the RAM card. Make sure that the RAM card loaded into the keyboard is a new one or, if it already contains data, that you no longer need the data.



3. Press the EXE button to format the RAM card.

120

To save sequencer data to a RAM card



1. Insert a RAM card into the card slot.



2. Select SAVE as the RAM card function.

501



3. Use the VALUE keys to assign a song area number from 01 through 30 to the data you are saving. Note that if you assign a song area number that is already used on the RAM card, the existing data is *replaced* with the new data.

503

IMPORTANT

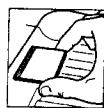
If the song area number you selected in step 3 above already contains data, the next step erases the existing data.



4. Press the EXE button to save the data.

120

To load sequencer data from a RAM card



1. Insert a RAM card into the card slot.



2. Select LOAD as the RAM card function.

L01



3. Use the VALUE keys to specify the number of the song area (01 through 30) that contains the data you want to load.

L03

IMPORTANT

The next step deletes all data that may already be stored on the AP-5 sequencer. Either save the sequencer data to a RAM card or make sure that you no longer need the sequencer data.



4. Press the EXE button to load the data.

120

To delete sequencer data from a RAM card



1. Insert a RAM card into the card slot.



2. Select DELETE as the RAM card function.

d01

501

503

s data, the next step

120

L01

L03

AP-5 sequencer.
ou no longer need

120

d01

Using RAM Cards



3. Use the VALUE keys to specify the number of the song area (01 through 30) that contains the data you want to delete.

d03

IMPORTANT

The next step deletes all data stored in the song area number you selected in step 3 above. Make sure that you no longer need the data in the selected song area before continuing.



4. Press the EXE button to delete the data.

120

PART 4 **MIDI Reference**

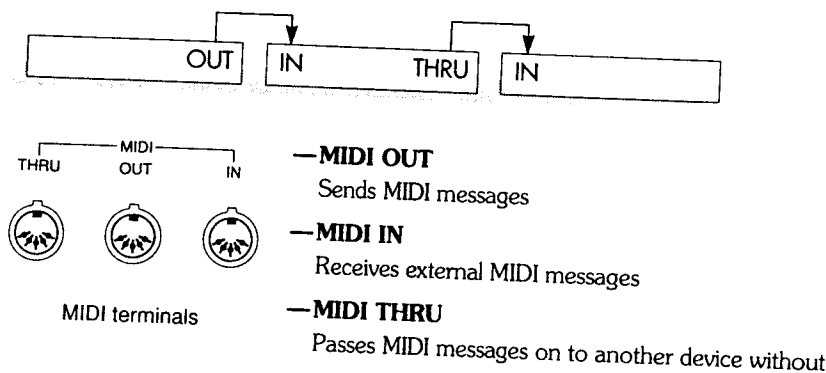
The AP-5 is equipped with MIDI — the Musical Instrument Digital Interface. This interface lets you connect the AP-5 with other MIDI electronic musical instruments and devices for remote control or synchronized ensemble play.

INSIDE PART 4

About AP-5 MIDI functions	46
About damper pedal control data	48

PART 4 MIDI Reference

MIDI Message Flow



About AP-5 MIDI Functions...

The AP-5 is capable of the following MIDI functions.

- **MIDI data transmit and receive**

The AP-5's keyboard can be used to sound the tones on another MIDI keyboard or sound module, or the AP-5 can play sounds generated by another MIDI keyboard or sequencer.

- **ROM card/sequencer data transmit**

Each track of data recorded to a ROM card or the sequencer can be send over different channels as MIDI data.

To set the MIDI basic channel

1. While no disc or card playback is being performed by the keyboard, hold down the TRANSPOSE/MIDI button and press the PIANO 1 tone selector.
2. Still holding down the TRANSPOSE/MIDI button, press the VALUE buttons to change the MIDI channel on the display.
3. Releasing the TRANSPOSE/MIDI button exits the MIDI basic channel display.

0 0 n

c 0 1

1 2 0

NOTE

- Immediately after you switch the power of the AP-5 on, the receive channel is set to OMNI ON, and the transmit channel is set to 1. With OMNI ON, all channels from 1 through 16 are capable of receiving data.
- The AP-5 lets you specify any channel from 1 through 12 as the MIDI basic channel.

Setting MIDI Modes

To set the MIDI MULTI CHANNEL mode

TRANPOSE/
MIDI
PIANO 2

1. While no disc or card playback is being performed by the keyboard, hold down the TRANPOSE/MIDI button and press the PIANO 2 tone selector.

c 0 F

(OFF)

TRANPOSE/
MIDI

2. Still holding down the TRANPOSE/ MIDI button, press the VALUE buttons to switch the MULTI CHANNEL on and off. The following shows the effect on the MIDI OUT channel.

c 0 n

(ON)

	ON	OFF
Keyboard operation	Basic channel	Basic channel
Sequencer Track A	Basic channel + 1	Basic channel
Sequencer Track B	Basic channel + 2	Basic channel
Card R-part	Basic channel + 3	Basic channel
Card L-part	Basic channel + 4	Basic channel

3. Releasing the TRANPOSE/MIDI button exits the MULTI CHANNEL display.

120

NOTES

- When you insert a ROM card or RAM card into the card slot and enter the Card Mode, the MIDI MULTI CHANNEL mode is automatically set up in accordance with the type of song selected, as noted below.

Type C ROM card or RAM card song.....ON

Type A or Type B ROM card song.....OFF

- Regardless of the ON/OFF status of the MULTI CHANNEL mode, the receive channel of the AP-5 is set as Basic Channel.
- During sequencer or card playback, pedal effects are applied in accordance with the ON/OFF status of the the MULTI CHANNEL mode, as noted below.

MULTI CHANNEL OFF

Pedal operations on the AP-5 cause the corresponding effect to be applied to both sequencer and card playback. Pedal effect data recorded to a card or the sequencer is applied universally to all notes, whether they are played back from recorded data or played directly on the keyboard of the AP-5.

MULTI CHANNEL ON

Pedal effect data recorded to a card or the sequencer is applied to playback from individual tracks, and does not affect the playback from the other track or play on the keyboard. Likewise, pedal operations on the AP-5 are applied to the keyboard only, and not to playback from a card or the sequencer.

About damper pedal control data...

The AP-5's damper pedal is capable of five different damper effects. The effect applied depends on how far you depress the pedal. Because of this, the control change data that is transmitted also differs in accordance with the pedal position. When control number 64 control change data is received by the AP-5, the AP-5 applies the damper effect in accordance with the received data. The following shows the relationship between the damper effect and control data.

DATA SENT FROM AP-5

Pedal Level	Control Data
1	00
2	20
3	3F
4	60
5	7F

DATA RECEIVED BY AP-5

Control Data	Pedal Effect
00	1
01 to 20	2
21 to 3F	3
40 to 60	4
61 to 7F	5

- For full details on the MIDI data that can be transmitted and received by the AP-5, see the MIDI Implementation Chart that comes with this manual.

In the Event of an Operating Problem

Most difficulties you encounter while using the AP-5 can be easily corrected by you. If you have a problem while setting up or playing the instrument, please read and carry out the appropriate procedure as indicated in this troubleshooting guide before calling your service representative.

Troubleshooting guide

Symptom	Possible cause	Remedy
Error message on display.		See Error Message Table.
No sound when keyboard keys are pressed.	Volume level too low.	Use Volume Controller to adjust volume level.
	Headphones connected.	Disconnect headphones.
Keyboard notes out of key.	Transpose function not set to key of C.	Set transpose function to key of C (page 22).
No sound when card playback is started.	Volume level too low.	Use Volume Controller to adjust volume level.
	Both PART buttons are set to off.	Change off part setting (page 27).
Card inserted into the card slot, but playback won't start (no START/ PAUSE button operation).	Keyboard not in Card Mode.	Enter Card Mode and then press START/PAUSE button (page 24).
Metronome Function does not operate.	Song selected in Card Mode cannot use Metronome Function.	Exit Card Mode or change song number to song that can use Metronome function (page 24).
OFF PART button does not operate in Card Mode.	Type B card song selected (page 24).	Change song number to song that is a different type (page 25).
Damper pedal operation has no effect.	Damper pedal depressed when keyboard power switched on.	Switch power off and then back on again.
Soft pedal operation has no effect.	Soft pedal depressed when keyboard power switched on.	Switch power off and then back on again.
Sostenuto pedal operation has no effect.	Sostenuto pedal depressed when keyboard power switched on.	Switch power off and then back on again.
Occasional interference.	Wall outlet used to power keyboard is located too close to outlet being used for a refrigerator, washing machine, or other electrical appliance.	Use a power outlet as far away as possible from appliance thought to be causing interference.

Care of Your Keyboard

Whenever operation becomes impossible in the Card Mode or Sequencer Mode, an error message appears on the display to alert you.

Error Message table

Error message	Meaning
<i>bEr</i>	Attempt made to enter the Sequencer Mode from the Card Mode when the beat value of data stored in the sequencer does not match the beat value of the currently selected card song.
<i>Er1</i>	No card in the card slot. Press the RAM CARD SELECT button to clear the error display.
<i>Er2</i>	Improper RAM card format. Press the RAM CARD SELECT button to clear the error display.
<i>Er3</i>	Not enough space available on RAM card to perform save. Press the RAM CARD SELECT button to clear the error display.
<i>Er4</i>	No loadable data on RAM card. Press the RAM CARD SELECT button to clear the error display.
<i>Er5</i>	No savable data in sequencer. Press the RAM CARD SELECT button to clear the error display.

Care of Your Keyboard

Observe the following guidelines and your keyboard will provide you with years of troublefree musical enjoyment.

- **Avoid heat, humidity, and direct sunlight**

Do not overexpose the unit to direct sunlight, or place it near an air conditioner or in any very hot place.

- **Severe impact can cause problems**

When transporting the unit, use soft cloth to pack around the keyboard and buttons to protect them against damage.

- **Be careful of liquids, dust, etc.**

Do not let the unit get wet and do not allow foreign matter to get between the keys. Be especially careful of metal objects, such as hairpins, sewing needles, coins, etc.

- **Never try to repair or modify any part of the unit**

Any attempt to repair or modify the unit can cause problems with operation.

- **Never use lacquer, thinner, or similar chemicals for cleaning**

Use a soft cloth dampened in a weak solution of water and a neutral detergent to clean the keyboard. Soak the cloth in the solution and wring out all excess water.

PART 5 Technical Reference

- **Avoid using this unit near televisions, radios, etc.**

Because this unit uses digital circuitry, it may cause interference with other electronic devices such as televisions, radios, etc.

- **In case of a problem...**

Check that buttons and connections are correct, as indicated in this manual. If the unit still does not work properly, contact your retailer or a nearby dealer. Never try to repair the unit yourself.

Care of Your ROM Card

1. Take care not to bend or drop your ROM card. Never carry it in your back pocket or leave it in other areas where it may be damaged.
2. When not in use, be sure to store your ROM card in its custom case to prevent damage due to dust, etc.
3. Your ROM card contains precision electronic components. Never try to take it apart for any reason.
4. CASIO claims no responsibility whatsoever for damages due to losses of ROM card data.

Specific

Model
Keyboard
Polyphony
Preset Tones

Effects
Metronome

Card Mode
Media

Controllers
Playback Rep
Off Part
Foot Pedal C
Sequencer
Recording
Number of Tr
Memory Capa
Memory Back
Battery Life
External Stora

Pedals
Display
Transpose
Tuning Control
Terminals

Speakers

Power Supply

Power Consumpti
Dimensions
Without stand

With stand

Weight
Without stand
With stand
Accessories

Specifications

Specifications

Model	AP-5
Keyboard	88 full-size keys with initial touch response
Polyphony	16 notes
Preset Tones	PIANO 1, PIANO 2, ELEC. PIANO 1, ELEC. PIANO 2, HARPSICHORD, VIBRAPHONE, GUITAR, PIPE ORGAN
Effects	Pedal Effect, Reverb (Room, Stage, Hall), Chorus, Tremolo, Pan, Brilliance
Metronome	0, 2, 3, 4, 5, 6 beats ♩ = 30 to 300
Card Mode	
Media	Standard accessory ROM card ("Best Selection") Optional ROM Cards (Cerviano Card Solo Library) RAM card (optional RA-500)
Controllers	START/PAUSE, STOP, CUE, REVIEW
Playback Repeat Function	1 song, all songs, specific area
Off Part	Left/Right/Both
Foot Pedal Control	Start/Pause/Review
Sequencer	
Recording	Real-time
Number of Tracks	2 (A and B)
Memory Capacity	Approximately 2,800 notes total
Memory Backup Battery	Built-in lithium battery
Battery Life	Approximately 5 years
External Storage	RAM card (optional RA-500)
Pedals	Soft/Sostenuto, Damper
Display	7-segment LED × 3
Transpose	F# - C - F
Tuning Control	A ₄ = 440Hz ± 50 cents
Terminals	PHONES 1 and 2, MIDI (IN/OUT/THRU), LINE OUT R and L (Output Impedance: 10 KΩ; Output Voltage: 1 V, RMS, max.), LINE IN R and L (Input Impedance: 47 KΩ)
Speakers	16 cm dia. × 2; 5 cm dia. × 2 (Output: approximately 25 W + 25 W)
Power Supply	100V, 120V, 230V, or 240V AC household current via AC power cord supplied with unit.
Power Consumption	65W (with 120V AC)
Dimensions	
Without stand	1446 (W) × 549 (D) × 242 (H) mm 56-15/16" × 21-5/8" × 9-1/2"
With stand	1465 (W) × 553 (D) × 845 (H) mm 57-11/16" × 21-3/4" × 33-1/4"
Weight	
Without stand	48 kg (105.5 lbs)
With stand	63 kg (138.9 lbs)
Accessories	ROM card (RC-A) with score; AC cord

PART 5 Technical Reference

GUIDELINES LAID DOWN BY FCC RULES FOR USE OF THE UNIT IN THE U.S.A. (not applicable to other areas).

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- ... reorient the receiving antenna
- ... relocate the equipment with respect to the receiver
- ... move the equipment away from the receiver
- ... plug the equipment into a different outlet so that the equipment and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful: "How to Identify and Resolve Radio-TV Interference Problems." This booklet is available from the US Government Printing Office, Washington, D.C. 20402, Stock No. 004-000-00345-4.

WARNING:

CHANGING THE VOLTAGE SELECTOR MAY REQUIRE THE USE OF A DIFFERENT LINE CORD OR ATTACHMENT PLUG, OR BOTH. TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

WARNI basic pre including

1. Read
produ
2. To ree
is nee
childr
3. Do no
examp
sink,
swimm
4. This p
stand
manuf
5. This pr
with a
speak
sound
hearin
period
level th
any he
should
6. The pr
locatio
its prop
7. The pr
heat
registe
heat.

IMPORTANT SAFETY INSTRUCTIONS

"INSTRUCTIONS PERTAINING TO A RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS"

WARNING — When using electric products, basic precautions should always be followed, including the following:

1. Read all the instructions before using the product.
2. To reduce the risk of injury, close supervision is necessary when a product is used near children.
3. Do not use this product near water — for example, near a bathtub, washbowl, kitchen sink, in a wet basement, or near a swimming pool, or the like.
4. This product should be used only with a stand that is recommended by the manufacturer.
5. This product, either alone or in combination with an amplifier and headphones or speakers, may be capable of producing sound levels that could cause permanent hearing loss. Do not operate for a long period of time at a high volume level or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should consult an audiologist.
6. The product should be located so that its location or position does not interfere with its proper ventilation.
7. The product should be located away from heat sources such as radiators, heat registers, or other products that produce heat.
8. The product should be connected to a power supply only of the type described in the operating instructions or as marked on the product.
9. This product may be equipped with a polarized line plug. This is a safety feature. If you are unable to insert the plug into the outlet, contact an electrician to replace your obsolete outlet. Do not defeat the safety purpose of the plug.
10. The power-supply cord of the product should be unplugged from the outlet when left unused for a long period of time.
11. Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
12. The product should be serviced by qualified service personnel when:
 - A. The power-supply cord or the plug has been damaged; or
 - B. Objects have fallen, or liquid has been spilled into the product; or
 - C. The product has been exposed to rain; or
 - D. The product does not appear to operate normally or exhibits a marked change in performance; or
 - E. The product has been dropped, or the enclosure damaged.
13. Do not attempt to service the product beyond that described in the user-maintenance instructions. All other servicing should be referred to qualified service personnel.

SAVE THESE INSTRUCTIONS

GROUNDING INSTRUCTIONS

This product must be grounded. If it should malfunction or break down, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This product is equipped with a cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

DANGER — Improper connection of the equipment-grounding conductor can result in risk of electric shock. Check with a qualified electrician or serviceman if you are in doubt as to whether the product is properly grounded. Do not modify the plug provided with the product — if it will not fit the outlet, have a proper outlet installed by a qualified electrician.

CELVANO PL

Bayer 1-43
Bayer No. 1 -

Bayer 44-106
Bayer No. 44 -

Pieces For Children
Butterflies / G
Meerädchen
ist halt Fein /
La Violette /
Fröhlicher La
Dreaming and
Menschen / W
(Type A songs)

Burgmüller 25
La Candeur /
Innocence / Pr
chasse / Ten
Consolation /
Babilarde / Inc
des anges /
chevaleresque

Classical Pieces
Für Elise / Tr
Gymnopedie No
/ Sonata Op. 1
Invention No. 8
35 No. 2 / Milit

Classical Recital
Fantaisie Impro
Nocturne Op. 4
Coke Walk / E
songs)

Screen Themes
Love Story / Wh
A Summer Place
a Many Splend
Your Smile (Type
Lara's Theme (Ty

Pops
Moon River / Str
Rainbow / Your
Moon / Begin the
The Windmills of

Jazz
It's Only a Paper
Take the "A" Tra
/ The Days of W
songs)
What's New? (Ty
On Green Dolphin

Contemporary P
Take My Breath
Goonies "R' Goo
Greatest Love N
/ Almost Paradise
(Type A songs)

• Refer to page
on types of the

Optional Accessories

CELVIANO PIANO SOLO CARD LIBRARY

Beyer 1-43 RC-1001BY
Beyer No.1 ~ Beyer No.43 (Type A songs)

Beyer 44-106 RC-1002BY
Beyer No.44 ~ Beyer No.106 (Type A songs)

Pieces For Children RC-1003BH
Butterflies / Gentle Bee / Oh, You Lovely Augustin / Das Meermädchen / Long, Long Ago / Drunten Im Unterland da ist Halt Fein / A Short Story / Ecossaise / Tick Tock Clock / La Violette / The New Doll / Menuet / Winder Reiter / Fröhlicher Landmann / Spinnerlied / Gavotte / Dolly's Dreaming and Awakening / Von Fremden Ländern und Menschen / Walzer No.15
(Type A songs)

Burgmüller 25 Leichte Etüden Op.100 RC-1004BU
La Candeur / Arabesque / Pastorale / Petite Réunion / Innocence / Progrès / Courant limpide / La gracieuse / La chasse / Tendre fluer / La bergeronnette / Adieu / Consolation / La styrienne / Ballade / Douce plainte / Babillarde / Inquiétude / Ave Maria / Tarentelle / Harmonie des anges / Barcarolle / Retour / L'hirondelle / La chevaleresque (Type A songs)

Classical Pieces RC-1005CL
Für Elise / Träumerei Op.15 No.7 / Turkish March / Gymnopédie No.1 / Sonata Op.27 No.2 Moonlight 1st Mov. / Sonata Op.13 Pathétique 2nd Mov. / Invention No.1 / Invention No.8 / Invention No.15 / Norwegian Dance Op.35 No.2 / Militär Marsch Op.51 No.1 (Type A songs)

Classical Recital RC-1006CL
Fantaisie Impromptu / Je Te Veux / Walzer Op. 64 No.1 / Nocturne Op. 9 No.2 / Liebesträume No.3 / Golliwog's Cake Walk / Étude Op.10 No. 12 Revolutionary (Type A songs)

Screen Themes RC-1007SC
Love Story / When You Wish Upon a Star / A Time for Us / A Summer Place / Speak Softly Love / Tara's Theme / Love is a Many-Splendored Thing / East of Eden / The Shadow of Your Smile (Type A songs)
Lara's Theme (Type C song)

Pops RC-1008PO
Moon River / Strangers in the Night / Love Letters / Over the Rainbow / Your Song / El Bimbo / I Write the Songs / Blue Moon / Begin the Beguine (Type A songs)
The Windmills of Your Mind (Type C song)

Jazz RC-1009JZ
It's Only a Paper Moon / Someday My Prince Will Come / Take the "A" Train / As Time Goes By / Autumn in New York / The Days of Wine & Roses / Round About Midnight (Type A songs)
What's New? (Type C song)
On Green Dolphin Street (Type B song)

Contemporary Pops RC-1010CP
Take My Breath Away / The Never Ending Story / Goonies""R'Good Time / I'll Never Get Enough of You / Greatest Love of All / Up Where We Belong / Arthur's Theme / Almost Paradise / If We Hold On Together / La Isla Bonita (Type A songs)

* Refer to page 24 "About card song types" for information on types of the songs in the ROM cards.

IMPORTANTE

Siempre que desee ejecutar con el teclado, tenga la precaución de abrir, deslizando la cubierta del teclado en todo su recorrido. De lo contrario, existe el peligro de que una vibración pueda ocasionar que la cubierta se cierre repentinamente, pudiendo lesionar sus dedos.

Function ...		Transmitted	Recognized	Remarks
Basic Channel	Default Changed	1 1-12	1 1-12	
Mode	Default Messages Altered	Mode 3 × *****	Mode 1 ×	
Note Number:	True voice	21-108 *****	21-108 21-108	
Velocity	Note ON Note OFF	○ 9n v = 1-127 × 9n v = 0	○ 9n v = 1-127 × 9n v = 0, 8n v = × ×	× × = no relation
After Touch	Key's Ch's	× ×	× ×	
Pitch Bender		×	×	
Control Change	64	○	○	Damper pedal Sostenuto pedal Soft pedal
	66	○	○	
	67	○	○	
Program Change:	True #	○ 0-7 *****	○ 0-7	
System Exclusive		×	×	
System Common	: Song Pos : Song Sel : Tune	× × ×	× × ×	
System Real Time	: Clock : Commands	× ×	× ×	
Aux Mes-	: Local ON/OFF : All notes OFF : Active Sense : Reset	× × × ×	× × × ×	
Remarks				

CASIO®